

**JOINT ASSIGNMENT**

FOR VALUE RECEIVED, WE,

**GERNOT FISCHER  
DIETER SAUER  
GREGOR TERLINDE**

hereby sell, assign and transfer unto

**OTTO FUCHS KG  
DERSCHLAGER STRASSE 26  
58540 MEINERZHAGEN GERMANY**

as assignee, and its successors, assigns and legal representatives, the entire right, title and interest, for all countries in and to certain inventions relating to the **AL/CU/MG/AG ALLOY WITH SI, SEMI-FINISHED PRODUCT MADE FROM SUCH AN ALLOY AND METHOD FOR PRODUCTION OF SUCH A SEMI-FINISHED PRODUCT** described in an application for Letters Patent of the United States, claiming priority from **(GERMANY)** application **(PCT/EP2002/007193)** filed on **(29 JUNE 2002)**, and all the rights and privileges under any and all Letters Patent that may be granted therefore.

We request that any and all patents for said inventions be issued to said assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.

We agree that, when requested, we will, without charge to said assignee but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in said assignee, its successors, assigns and legal representatives or nominees.

We authorize and empower the said assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property,

as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from us.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

We covenant with said assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that we have full right to convey the same as herein expressed.

Signed at Munich, GERMANY, this 23 day of June, 2004.

  
GERNOT FISCHER

  
DIETER SAUER

  
GREGOR TERLINDE

Docket No. IF-F26
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## Declaration and Power of Attorney For Patent Application

### English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**AL/CU/MG/AG ALLOY WITH SI, SEMI-FINISHED PRODUCT MADE FROM SUCH AN ALLOY AND METHOD FOR PRODUCTION OF SUCH A SEMI-FINISHED PRODUCT**

the specification of which

(check one)

☒ is attached hereto.

☒ was filed on June 29, 2002 as United States Application No. or PCT International Application Number PCT/EP2002/007193 and was amended on by preliminary amendment, attached hereto.

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, or plant breeder's rights certificate(s), or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
<u>PCT/EP2002/007193</u>	<u>PCT</u>	<u>29 June 2002</u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u></u>	<u></u>	<u></u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u></u>	<u></u>	<u></u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

<u>n/a</u>	
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

<u>PCT/EP2002/007193</u>	<u>29 June 2002</u>	<u>Patented</u>
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

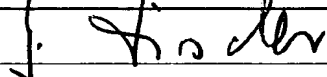
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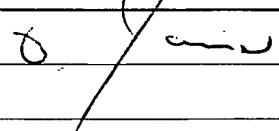
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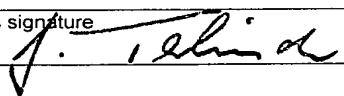
Customer No. 23996

Direct Telephone Calls to: *(name and telephone number)*

Margaret Polson Reg. 42,082 303-651-2177

Full name of sole or first inventor <b>Gernot Fischer</b>		24.06.04
Sole or first inventor's signature		
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Full name of third inventor, if any <b>Gregor Terlinde</b>	
Third inventor's signature 	Date <b>June 23, 2008</b>
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Citizenship <b>German</b>	
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Full name of fourth inventor, if any	
Fourth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of fifth inventor, if any	
Fifth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of sixth inventor, if any	
Sixth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

VERIFICATION OF A TRANSLATION

I, the below named translator, hereby declare that:

My name and post office address are as stated below:

That I am knowledgeable in the English language and in the language in which the below identified international document was written, and that I believe the English translation of the attached international document

**Al-Cu-Mg-Ag Legierung mit Si, Halbzeug aus einer solchen Legierung sowie  
Verfahren zur Herstellung eines solchen Halbzeugs**

**PCT/EP2002/007193**

is a true and complete translation of the above identified document as filed.

I hereby declare that all statements made herein are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the document.

23 March 2004

Date

Sigrid C.B. Sommerfeldt, Ph.D.

Full name of translator



Signature of translator

1880 King Avenue

Boulder Colorado 80302

Al/Cu/Mg/Ag alloy with Si, semifinished product from such an alloy as well as method for the production of such a semifinished product

Subject matter of the invention is an Al/Cu/Mg/Mn Alloy for the production of semifinished products with high static and dynamic strength properties. The invention further relates to semifinished products manufactured from such an alloy with high static and dynamic strength properties as well as to a method for the production of such a semifinished product.

Aluminum alloys having a high static and dynamic bearing capacity, are for example the alloys AA 2014 and AA 2214. From these Al alloys in the artificially aged state for example drop-forged parts for wheel and brake systems of airplanes are manufactured. While the listed strength properties of the semifinished products produced of such an alloy are an intrinsic characteristic of the semifinished product, especially at lower temperatures, at temperatures of more than 100° C these properties decrease more rapidly than is the case with alloys of the group AA 2618. Semifinished products of such alloys have better high-temperature stability and are utilized for example as compressor impellers for rechargeable Diesel engines or for rotors of ultracentrifuges. However, at temperatures below 100°C, the aluminum alloys of the group AA 2014 and AA 2214 have greater bearing capacity.

In the case of the wheel brake system of airplanes considerable heat is generated during the braking process. This leads to temperature increases even in wheels, which typically are fabricated of an AA 2014 or AA 2214 alloy. These can cause early overageing of this alloy and, entailed therein, to a severe limitation of the service life of the structural part.

In the case of compressor impellers transitions to titanium alloys have been made in order to lend the compressor impellers produced therefrom the necessary static and dynamic strength properties even at increased temperatures. However, employing titanium is expensive and especially for this reason not suitable for the production of airplane wheels. Furthermore, due to its limited thermal conductivity, titanium is less well suited as a